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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,506	06/15/2006	Dong Moon Woo	05-598-B	5661
20306 7590 12/03/2008 MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP 300 S. WACKER DRIVE 32ND FLOOR CHICAGO, IL 60606				
EXAMINER				
WOLDEKIDAN, HIBRET ASNAKE				
ART UNIT		PAPER NUMBER		
2613				
MAIL DATE		DELIVERY MODE		
12/03/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/560,506

**Applicant(s)**

WOO, DONG MOON

**Examiner**

Hibret A. Woldekidan

**Art Unit**

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/13/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (US 2002/0003645).

Consider claim 1, Kim discloses a method of transmitting a signal in a distributed BTS (Base Transceiver Station) system(See Paragraph 23, fig. 2 i.e. **transmitting signal in a plurality of Base Transceiver Station(BTS)**) comprising a BTS main unit and BTS RF units(See Paragraph 23, fig. 2 i.e. **Compact Transceiver system controller(18) is considered as a BTS main unit(18) since it distributes signals to a plurality of BTS RF units(14). BTS main unit(18) and BTS RF units(14)**), said method comprising the steps of: generating a signal for mobile communication at the BTS main unit(See Paragraph 26, fig. 3 i.e. **a transmitter(21) for transmitting signal in a mobile communication network** ); converting the signal into a intermediate frequency signal (See Paragraph 27,28 i.e. **Converting the signal into IF signal**), and outputting the converted signal from the BTS main unit(See Paragraph 26, fig. 3 i.e. **converting and outputting signals from the BTS controller(18)**); receiving the outputted signal from the BTS main unit at an E/O (Electrical/Optical) converter (See Paragraph 26, fig. 3 i.e. **receiving signal at E/O converter(29)**), converting the

received signal into a first optical signal(See Paragraph 26, fig. 3 i.e. E/O converter(29) for converting signals to optical signals), and transmitting the first optical signal to a first BTS RF unit(See Paragraph 26,30, fig. 4 i.e. transmitting the first optical signal to the first BTS RF unit(BTS1) through link 36); converting the transmitted signal into an electrical signal using an O/E (Optical/Electrical) converter(See Paragraph 32, fig. 2,4,5 i.e. fig. 4 illustrates that the BTS Rf unit(14 of fig. 2) including a TP<sub>(n)</sub> and BTS<sub>(n)</sub> units. Fig. 5 further illustrates the detail diagram of the optical transponder(TP<sub>(n-1)</sub> of fig. 4) in one of the BTS RF units(14 of fig. 2). As shown in fig. 5 there is an optical to electrical converter(62) for converting the transmitted optical signal from the main unit to electrical signal)), and generating a coupled signal and a main signal from the electrical signal using an RF coupler(See Paragraph 32, fig. 5 i.e. RF coupler which is the divider(84) for dividing the converted electrical signal from O/E converter(62) into two signals(64,92). The first signal(64) and the second signal (92)); transmitting the coupled signal to the first BTS RF unit(See Paragraph 32, fig. 5 i.e. transmitting the first signal(64) to the RF part of the first BTS RF unit), converting the main signal into a second optical signal, and transmitting the second optical signal to a second BTS RF unit(See Paragraph 32,33, fig. 5 i.e. converting the second signal(92) to optical signal using E/O converter(70) and transmit the converted optical signal to the next BTS RF unit(TP<sub>n</sub> and BTS<sub>n</sub>)); separating the transmitted second optical signal into an optical coupled signal and an optical main signal using an optical coupler(See Paragraph 30,32,33, fig. 5 i.e. optical coupler(72) for dividing the second part of

**the optical signal(71) into two parts. As illustrated in figs. 4,5 and taught in paragraph 30,32,33, the same process repeated in the next RF BTS unit to the n<sup>th</sup> RF BTS units which is converting the optical signal into electrical signal, dividing the converted electrical signal into two parts, transmitting the first part of the signal into the RF-BTS unit of the system while converting the second part of the signal into optical then transmitting the converted optical signal to the next BTS RF unit); transmitting the optical coupled signal to the second BTS RF unit and transmitting the optical main signal to a third BTS RF unit(See Paragraph 32,33, fig. 5 i.e. The first part goes back to the second BTS RF unit(81) and the second part transmit to the next BTS RF unit ); and converting the optical coupled signal into an electrical signal to be used at the second BTS RF unit (See Paragraph 32,33,fig. 5 i.e. an optical to electrical converter(80) for converting the transmitted optical signal into electrical signal)), and converting the optical main signal into an electrical signal to be used at the third BTS RF unit(See Paragraph 32,33,fig. 5 i.e. an optical to electrical converter(62) for converting the transmitted optical signal into electrical signal)).**

### ***Conclusions***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hibret A. Woldekidan whose telephone number is (571)270-5145. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 5712723078. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. A. W./  
Examiner, Art Unit 2613

/Kenneth N Vanderpuye/  
Supervisory Patent Examiner, Art Unit 2613